

input device **458** is a device which may detect an acoustic wave by a microphone **488** of the electronic device **100** through an input means generating an ultrasonic signal to identify data and may perform wireless recognition.

[0195] The display **460** (for example, the display **360** of FIG. 20) includes a panel **462**, a hologram device **464**, and a projector **466**. The panel **462** may be, for example, a liquid crystal display (LCD) or an active organic light emitting diode (AM-OLED). The panel **462** may be implemented to be, for example, flexible, transparent, or wearable. The panel **462** may be configured by the touch panel **452** and one module. The hologram device **464** shows a stereoscopic image in the air by using the interference of light. The projector **466** projects light on a screen to display an image. For example, a screen may be located internally or externally to the electronic device **100**. According to an embodiment of the present disclosure, the display **460** may further include a control circuit for controlling the panel **462**, the hologram device **464**, and the projector **466**.

[0196] The interface **470** includes, for example, an HDMI **472**, a USB **474**, an optical interface **476**, and a D-subminiature (D-sub) connector **478**. The interface **470** may be included in, for example, the communication interface **370** illustrated in FIG. 20. Additionally or alternatively, the interface **470** may include, for example, a mobile high-definition link (MHL) interface, an SD card/multi-media card (MMC), or an Infrared Data Association (IrDA) standard interface.

[0197] The audio module **480** bi-directionally converts sound and an electrical signal. At least some components of the audio module **480** may be included in, for example, the input/output interface **350** illustrated in FIG. 20. The audio module **480** processes sound information input or output through, for example, a speaker **482**, a receiver **484**, an earphone **486**, the microphone **488**, or the like.

[0198] The camera module **491** is a device which MAY photograph a still image and record a video. According to an embodiment of the present disclosure, the camera module **491** may include one or more image sensors (for example, a front sensor or a back sensor), an image signal processor (ISP) or a flash (for example, an LED or a xenon lamp).

[0199] The power management module **495** manages power of the electronic device **100**. The power management module **495** may include, for example, a power management integrated circuit (PMIC), a charger integrated circuit (IC), or a battery gauge.

[0200] The indicator **497** shows predetermined statuses of the electronic device **100** or a part (for example, the processor **410**) of the electronic device **100**, for example, a booting status, a message status, a charging status, and the like. The motor **498** converts an electrical signal to a mechanical vibration. The electronic device **100** may include a processing unit (for example, graphics processing unit (GPU)) for supporting a module TV. A processing unit for supporting mobile TV may process, for example, media data according to the digital multimedia broadcasting (DMB) standard, the digital video broadcasting (DVB) standard, media flow, or the like.

[0201] Each of the components of the electronic device **100** according to an embodiment of the present disclosure may be implemented by one or more components and the name of the corresponding component may vary depending on a type of the electronic device **100**. The electronic device **100** may include at least one of the above described com-

ponents, where a few of the components may be omitted, or where additional components may be further included. In addition, some of the components of the electronic device **100** may be combined to form a single entity, and thus may equivalently execute functions of the corresponding components before being combined.

[0202] The term “module” used in the present disclosure may refer to, for example, a unit including at least one combination of hardware, software, and firmware. The term “module” may be interchangeably used with a term, such as “unit,” “logic,” “logical block,” “component,” and/or “circuit.” The term “module” may indicate a minimum unit of an integrally configured article and/or a part thereof. The term “module” may indicate a minimum unit performing at least one function and/or a part thereof. The term “module” may indicate a device that is mechanically and/or electronically implemented. For example, the term “module” may include at least one of an application specific integrated circuit (ASIC), a field programmable gate array (FPGA), and a programmable-logic device for performing operations which are known and/or will be developed.

[0203] According to an embodiment of the present disclosure, at least some of the devices (for example, modules or functions thereof) or the method (for example, operations) may be implemented by a command stored in a non-transitory computer-readable storage medium in the form of a programming module. If instructions are executed by at least one processor (e.g., the processor **410** of FIG. 21), the at least one processor may perform functions corresponding to the instructions. The non-transitory computer-readable storage medium may be, for example, the memory **430** of FIG. 21. At least a part of the programming module may be implemented (for example, executed) by, for example, the processor **410** of FIG. 21. At least some of the programming modules may include, for example, a module, a program, a routine, a set of instructions, or a process for performing one or more functions.

[0204] The non-transitory computer-readable recording medium may include magnetic media such as a hard disk, a floppy disk, and a magnetic tape, optical media such as a compact disc ROM (CD-ROM) and a digital versatile disc (DVD), magneto-optical media such as a floptical disk, and hardware devices specially configured to store and perform a program instruction (for example, a programming module), such as a ROM, a RAM, a flash memory, and the like. In addition, program instructions may include high level language code, which may be executed in a computer by using an interpreter, as well as machine code generated by a compiler. The aforementioned hardware device may be configured to operate as one or more software modules in order to perform the operation of the present disclosure, and vice versa.

[0205] A module or programming module of the present disclosure may include at least one of the aforementioned components with omission of some components or addition of other components. The operations of the modules, programming modules, or other components may be executed in series, in parallel, recursively, or heuristically. In addition, some operations may be executed in a different order, omitted, or extended with other operations.

[0206] The embodiments of the present disclosure described above and illustrated in the accompanying drawings are merely presented to easily describe the present disclosure and facilitate understanding of the present dis-